

ABSTRACT

Air-gap insulated interconnection structures and methods of fabricating the structures, the methods including: forming a dielectric layer on a substrate; forming a capping layer on a top surface of the dielectric layer; forming a trench through the capping layer, the trench extending toward said substrate and into but not through, the dielectric layer; forming a sacrificial layer on opposing sidewalls of the trench; filling the trench with a electrical conductor; and removing a portion of the sacrificial layer from between the electrical conductor and the dielectric layer to form air-gaps.